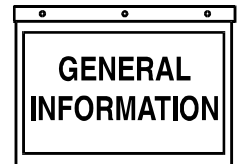


GENERAC® ENGINES

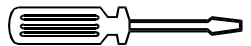
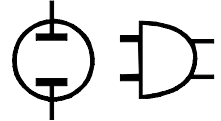
Overhead Valve Industrial

Owner's Manual

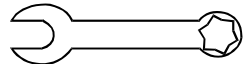
SAFETY RULES



OPERATION



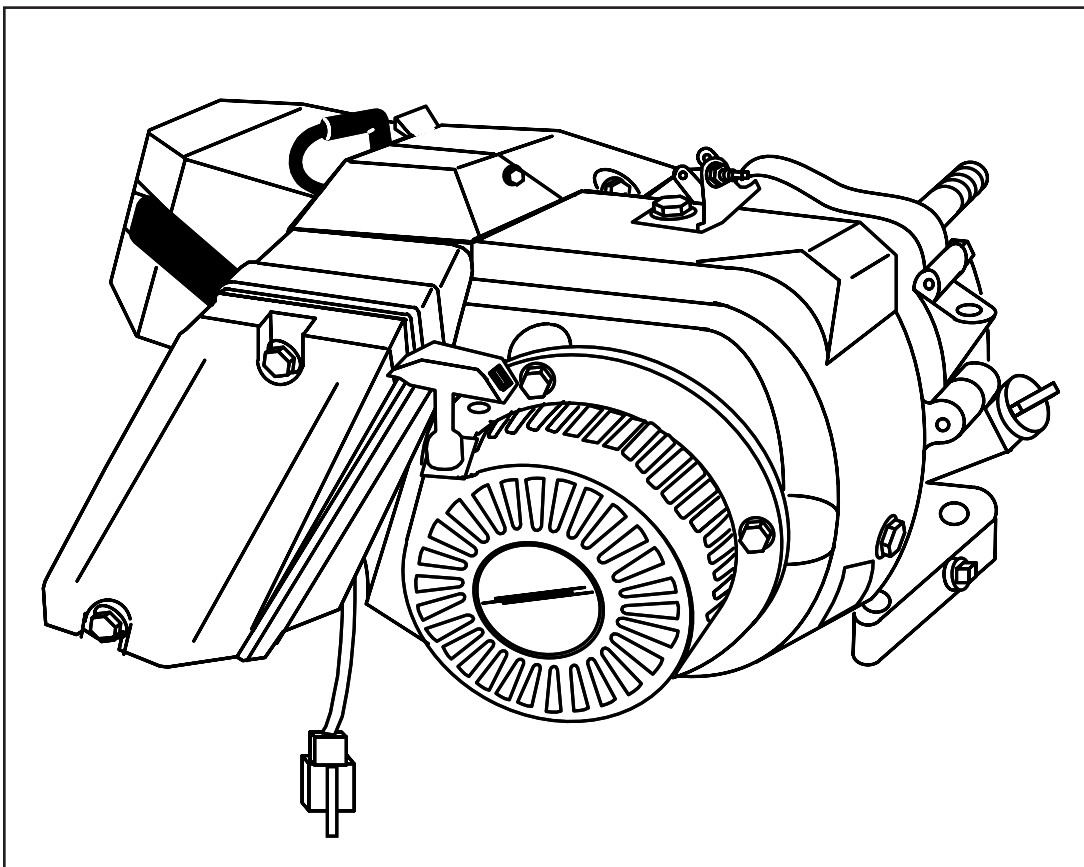
MAINTENANCE



TROUBLESHOOTING



PARTS LISTS



Model No. 190/220 (6.5/7.8 Horsepower)



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS, WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THE MANUAL BEFORE ATTEMPTING TO OPERATE THIS UNIT.



If you don't understand any portion of this manual, contact Generac for a demonstration of actual starting, operating and servicing procedures.

Throughout this publication and on tags and decals affixed to the generator, **DANGER**, **WARNING** and **CAUTION** blocks are used to alert you to special instruction about a particular operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully.

These safety warnings cannot eliminate the hazards that they indicate. Strict compliance with the special instructions while performing the service plus "common sense" are major measures to prevent accidents.

The following definitions apply to **DANGER**, **WARNING**, **CAUTION** and **NOTE** blocks found throughout the manual.

These safety symbols indicate the following:



DANGER: After this heading you can read handling, installing, operating or servicing instructions that, if not strictly complied with, will result in personal injury.



WARNING: After this heading you can read handling, installing, operating or servicing instructions that, if not strictly complied with, may result in personal injury.



CAUTION: After this heading you can read instructions for handling, installing, operating or servicing the generator that, if not strictly complied with, may result in damage to equipment and/or property.

NOTE: After this heading you can read explanatory statements that require special emphasis.

These symbols indicate the following:



Points out important safety information and, if not followed, could endanger personal safety and/or property of yourself and others.



Potential explosion hazard.



Potential fire hazard.



Potential electrical shock hazard.

RULES FOR SAFE OPERATION

Study these **RULES FOR SAFE OPERATION** carefully before operating or servicing this equipment. Become familiar with the **OWNER'S MANUAL** and with the engine. The engine can operate safely, efficiently and reliably only if it is properly operated and maintained. Many accidents are caused by failing to follow simple and fundamental rules or precautions.

Generac cannot possibly anticipate every possible circumstance that might involve a hazard. The warnings in this manual and on tags and decals affixed to the equipment, are therefore, not all-inclusive. If you use a procedure, work method or operating technique Generac does not specifically recommend, you must satisfy yourself that it is safe for you and others. You must also make sure the procedure, work method or operating technique that you choose does not render the engine to be unsafe.



DANGER: Do not tamper with the engine governed speed. High operating speeds are dangerous and increase the risk of personal injury or damage to the equipment. Operating at low speeds with heavy load may shorten the engine's life.

BEFORE OPERATING

- Gasoline is highly **FLAMMABLE** and its vapors are **EXPLOSIVE**. Do not permit smoking, open flames, sparks or heat in the area while handling gasoline. Avoid spilling gasoline on a hot engine. Comply with all of the laws regulating storage and handling of gasoline.
- Store gasoline and other fuels only in containers designed and approved for the storage of such materials.
- Pressure can build up in the fuel tank. Loosen the fuel tank slowly to relieve any pressure in the tank.
- Add gasoline and other fuels in a clean, well-ventilated area. Wipe up any spilled gasoline immediately. If gasoline has been spilled, let it dry completely before starting the engine.



WARNING:



The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.



- Do not overfill the fuel tank. Always allow room for fuel expansion. If the tank is overfilled, the fuel can overflow onto a hot engine and cause a **FIRE** or an **EXPLOSION**.
- Allow at least two (2) feet of clearance on all sides of the engine, even while operating it outdoors, or you could damage the engine.
- Thoroughly inspect the engine for loose or damaged parts before each use. Do not use the engine until adjustments or repairs are made.
- Check the oil level in the engine before each use.
- Inspect the engine periodically. Repair or replace all damaged or defective parts immediately.
- Inspect fuel system frequently for leaks or damage. Repair or replace any damaged or leaking component immediately. Never attempt to change, alter or modify the engine fuel system in any way that might affect safety or compliance with applicable codes and standards.

■ WHILE OPERATING

- **This engine was designed and manufactured for specific applications. Do not attempt to modify the equipment or use it for any application for which it was not designed.**
 - Engine exhaust gases contain **DEADLY** carbon monoxide gas. This dangerous gas, if breathed in sufficient concentrations, can cause unconsciousness or even death. Operate this equipment only in the open air where adequate ventilation is available.
- Do not insert any object through the cooling slots of the engine. You could damage the equipment or injure yourself.
 - Do not operate the engine faster than the speed necessary to operate the equipment. Do not run the engine at high speed when not operating the equipment.
 - This engine requires an adequate flow of cooling air for its continued proper operation. Never operate the equipment inside any room or enclosure where the free flow of cooling air into and out of the equipment might be obstructed. Without sufficient cooling air flow, the engine quickly overheats, damaging the engine or nearby property.
 - Do not smoke around the engine. Wipe up any fuel or oil spills immediately. Never leave oily or fuel soaked rags around the engine. Keep the area around the engine clean and free of debris.
 - Keep hands, feet, clothing, etc., away from moving parts of this engine.
 - Never operate the engine (a) in the rain; (b) in any enclosed compartment; (c) if the engine speed changes; (d) if the engine sparks; (e) if flame or smoke is observed while the engine is running.
 - Never work on this engine or handle any electrical device while standing in water, while barefoot, or while hands or feet are wet. **DANGEROUS ELECTRIC SHOCK** will result.

This engine meets the 1998 and later California emissions regulations. To ensure that your engine continues to meet these regulations, refer to the following information and instructions in this owner's manual.

SERVICE INFORMATION

Service on this engine within and after the warranty period can be performed by any authorized service dealer. Service technicians are factory trained and capable of handling all service needs.

When contacting an authorized service dealer or the factory about parts and service, always supply the complete model number and serial number of your unit as given on its data plate decal.

The warranty and replacement parts for this engine are included in the owner's manual.

When ordering engine components, you must provide the authorized service dealer with the engine identification number, which is located on the engine identification decal. See the illustration below for the location of the decal.

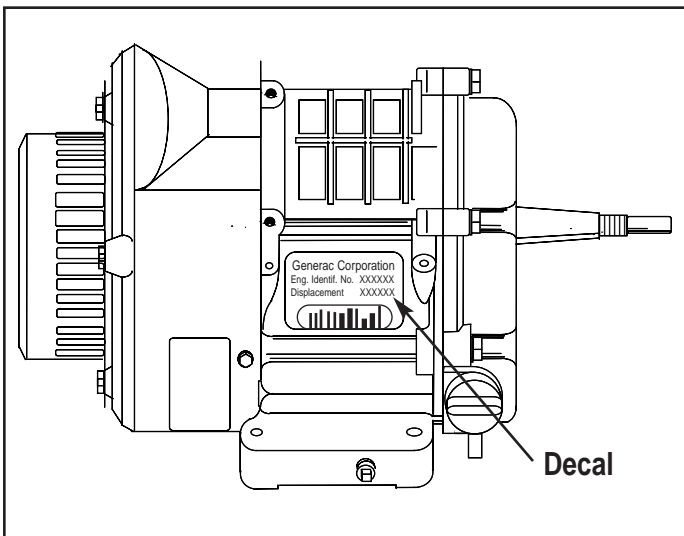


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OIL AND FUEL INFORMATION

NOTE: BE SURE TO READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO START OR OPERATE THIS EQUIPMENT. Using old or improper oil or fuel can cause engine damage.



CAUTION: Any attempt to crank or start the engine before it has been properly serviced with the recommended oil may result in engine damage.

RECOMMENDED OIL TYPE

Using the proper type and weight of oil in the crankcase is extremely important. Check the oil before each use and change the oil regularly. Failure to use the correct oil, or using dirty oil, can cause premature engine wear and failure.

The recommended oils include the following:

- During summer months: SAE 10W-30,
- During winter months: SAE 5W-20 or 5W-30. **DO NOT USE SAE 10W-40.**

The crankcase oil capacity is about 770 ml (29 oz.) with the oil filter. Without the filter, the oil capacity is 620ml (21 oz.). Use no special additives.

RECOMMENDED FUEL TYPE

Use clean, fresh, regular **UNLEADED** gasoline with this engine.



CAUTION: Do not overfill the fuel tank. Always allow room for fuel expansion.



WARNING: NEVER FILL THE FUEL TANK INDOORS. OR WHEN THE ENGINE IS RUNNING OR HOT. DO NOT LIGHT A CIGARETTE OR SMOKE WHEN FILLING THE FUEL TANK.

OPERATION AND MAINTENANCE

It is the owner's/operator's responsibility to perform all safety checks; to make sure that all maintenance for safe operation is performed promptly; and to have the engine checked by an authorized dealer periodically. Normal maintenance service and replacement of parts are the responsibility of the owner/operator and, as such, are not considered defects in materials or workmanship within the terms of the warranty. Individual operating habits and usage contribute to the need for maintenance service.

Proper maintenance and care of your engine assures a minimum number of problems and keeps your operating expenses at a minimum. See your authorized dealer/distributor for service aids and accessories.

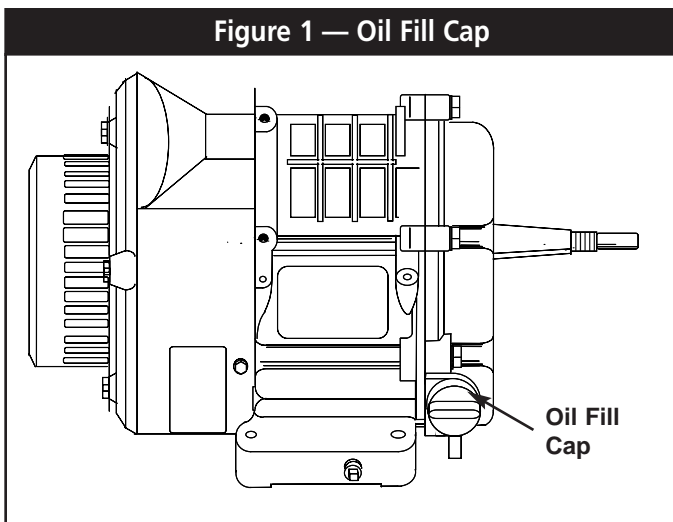
BEFORE STARTING THE ENGINE

Perform the following tasks before trying to start the engine:

■ ADDING ENGINE OIL

1. Remove the yellow oil fill cap from the crankcase (Figure 1).
2. Add engine oil until the oil level is to the point of overflowing.

Figure 1 — Oil Fill Cap



■ CHECKING ENGINE OIL

1. Check the engine oil level before starting the engine each time after the initial start. If the oil level is below the point of overflowing, fill to the proper level.

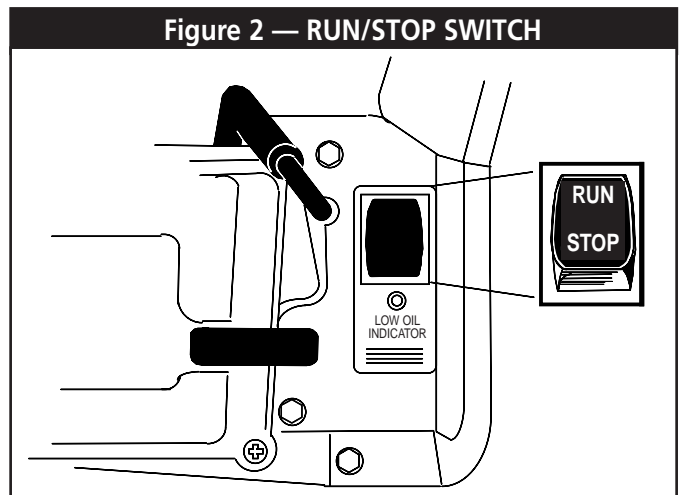
■ ADDING FUEL

1. Fill the fuel tank using clean, fresh **UNLEADED** gasoline.

STARTING THE ENGINE

1. Open the fuel shut-off valve, if so equipped.
2. If your unit is equipped with the IDLE/CONTROL feature, locate the IDLE/CONTROL ON/OFF SWITCH on the control panel, and set it to the OFF (O) position.
3. Locate the **RUN/STOP SWITCH** (Figure 2) next to the engine cylinder head and push it to **RUN**.

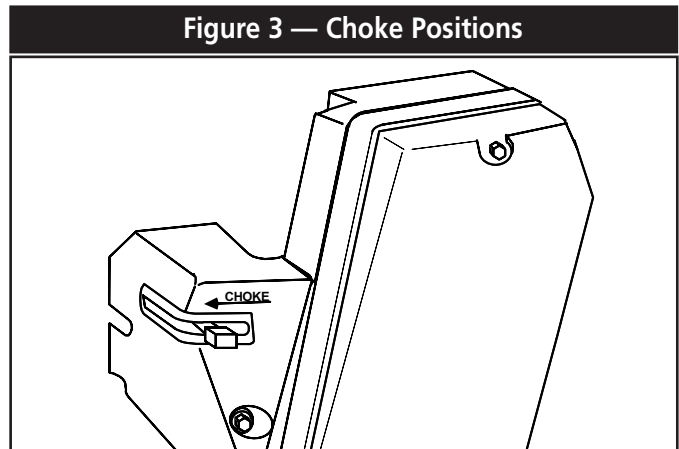
Figure 2 — RUN/STOP SWITCH



If your engine is equipped with a choke, use the following instructions:

1. Place the choke lever in the **FULL CHOKE POSITION** (Figure 3) by sliding it to the left (towards the valve cover), in the direction indicated by the arrow.

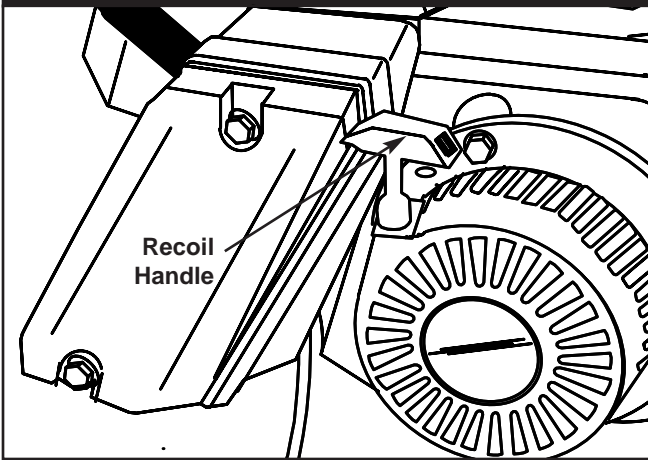
Figure 3 — Choke Positions



2. Grasp the recoil handle (Figure 4) and pull it slowly until you feel slight resistance, then **PULL QUICKLY**.

- A. If the engine **FAILS TO START**, go to Step 3.
- B. If the engine **STARTS**, go to Step 4.

Figure 4 — Recoil Handle



- 2. Grasp the recoil handle (see Figure 4) and pull it slowly until you feel slight resistance, then **PULL QUICKLY**. Repeat pulling the recoil handle three (3) times, if necessary.
- 3. If the engine **FAILS TO START**, repeat Steps 1 and 2.
- 4. Allow the engine to warm up for two (2) minutes before using the equipment.

STOPPING THE ENGINE

- 1. Remove the load on the engine, and let it run for 30 seconds.
- 2. Turn off the engine by moving the **RUN/STOP SWITCH** to the **STOP** position.
- 3. Close the fuel shut-off valve, if so equipped.

LOW PRESSURE SHUTDOWN SYSTEM

The engine is equipped with a low oil pressure sensor that shuts down the engine automatically when the oil pressure drops below 8 psi. If the engine shuts down by itself and the fuel tank has enough gasoline, check the engine oil level.

■ INITIAL STARTUP

A delay built in the shutdown system allows oil pressure to build during starting. The delay allows the engine to run for about 10 seconds before sensing oil pressure.

■ SENSING LOW PRESSURE

If the system senses low oil pressure during operation, the engine shuts down. As the system shuts down, the low oil light comes **ON** (see Figure 2, page 6). However, once the engine stops rotating, this light will go **OFF**.

■ RESTARTING THE ENGINE

If you try to restart the engine within 5 seconds after it shuts down, the engine may **NOT** start. The system needs 5 to 10 seconds to reset.

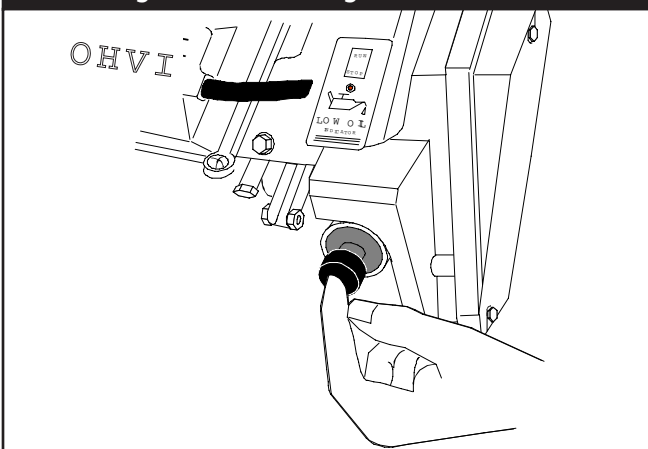
NOTE: If you do restart engine after a shutdown and have not corrected the low oil pressure, the engine will run for about 10 seconds as described above, and then it will stop.

- 3. Move the choke lever to the **HALF CHOKE POSITION**, and pull the recoil handle (Figure 4) two (2) times.
 - If the engine **STILL FAILS TO START**, repeat Steps 1-3.
- 4. Move the choke lever to the **RUN POSITION** by sliding it to the right (away from the valve cover and under the arrow).
- 5. Allow the engine to warm up for two (2) minutes before using the equipment.

If this engine is equipped with a primer bulb, use the following instructions.

- 1. Press the primer bulb three (3) times, waiting two (2) seconds between each push (Figure 5).

Figure 5 — Pressing the Primer Bulb



GENERAL MAINTENANCE RECOMMENDATIONS

The owner/operator is responsible for making sure that all periodic maintenance tasks are completed on a timely basis; that all discrepancies are corrected; and that the equipment is kept clean and properly stored. Never operate a damaged or defective engine.



CAUTION: Disconnect the spark plug wire from the spark plug, and place the wire where it cannot come in contact with the spark plug before working on this engine.

■ CHECKING THE OIL LEVEL

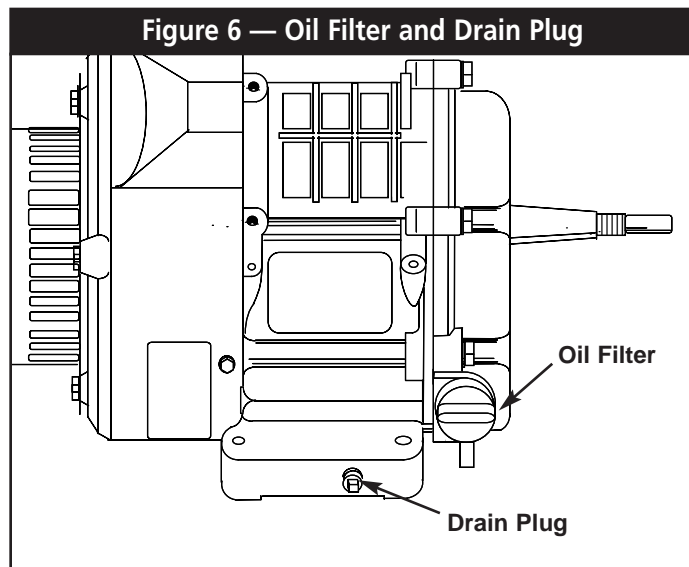
See the BEFORE STARTING THE ENGINE section on page 6 for information on checking the oil level. The oil level should be checked before each use, or at least **every eight (8) hours** of operation. Keep the oil level maintained.

■ CHANGING THE OIL AND OIL FILTER

Your engine may be equipped with an oil filter. Change the oil and filter after the **first eight (8) hours** of operation. Change the oil and oil filter (if so equipped) **every 50 hours** thereafter. If you are using this engine under dirty or dusty conditions, or in extremely hot weather, change the oil more often.

Use the following instructions to change the oil while the engine is still warm:

1. Clean the area around the oil drain plug, remove the plug and drain the oil completely into a suitable container (Figure 6).



2. When the oil is drained, install and tighten the oil drain plug.
3. **If your engine is equipped with an oil filter, use the following instructions:**
 - A. Place a suitable container beneath the oil filter and turn the filter **counterclockwise** to remove the filter.
 - B. Coat the gasket of a new filter with engine oil. Turn the new filter **clockwise** until the gasket contacts the filter adapter, then tighten an additional **3/4 turn**.
4. Remove the oil fill plug and insert a clean funnel into the plug opening. Fill the crankcase with the recommended oil until the oil level is at point of overflowing. Approximately 620ml (21 oz.) are required without an oil filter; 770ml (29 oz.) with an oil filter. **POUR SLOWLY.**
5. When the crankcase is filled to the proper level, install and tighten the oil fill plug.

■ SERVICING THE AIR CLEANER.

Your equipment's air cleaner is one of the most important areas to maintain. This engine will not run properly and may get damaged if it is run with a dirty air cleaner system.

Clean or replace the paper air filter (Figure 7) **every 50 hours of operation** or once a year, whichever comes first. Clean or replace the filter more often if the engine is operated under dusty or dirty conditions. Clean the foam pre-filter **every 25 hours of operation**, or sooner under dusty or dirty conditions.

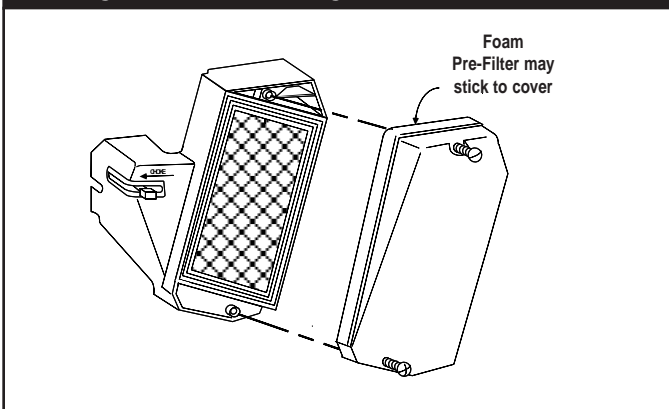


CAUTION: Never run this equipment **without** the complete air cleaner system installed on the engine. This could result in premature wear to the engine.

Use the following instructions to clean or replace the air cleaner components.

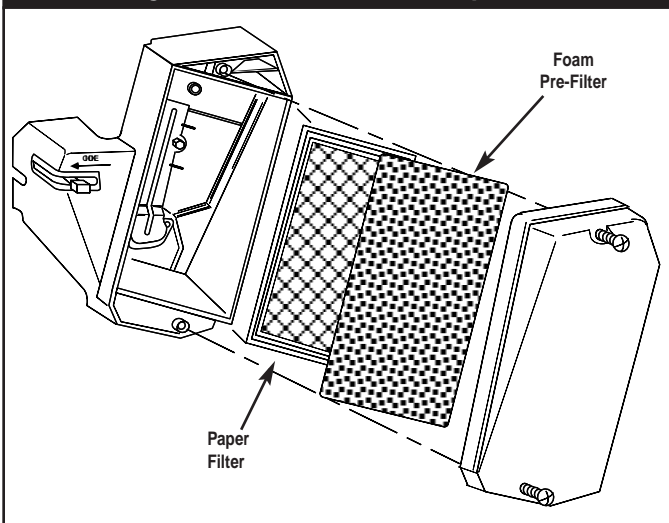
1. Loosen the two screws on the air cleaner cover. Remove the air cleaner cover (Figure 7).

Figure 7 — Removing the Air Cleaner Cover



2. Remove the paper air filter and the foam pre-filter from the air cleaner cover (Figure 8).

Figure 8 — Air Cleaner Components



3. **To clean or replace the foam pre-filter:**

- A. Wash the pre-filter in soapy water.
- B. Squeeze the pre-filter dry with a clean cloth. **DO NOT TWIST.**

NOTE: If the pre-filter is still dirty after washing and drying it, replace it with a new one.

- C. Apply enough clean engine oil to saturate the pre-filter.
- D. Wrap the pre-filter in a clean dry cloth and squeeze out the excess oil. **DO NOT TWIST.** Set the pre-filter aside.

4. **To clean or replace the paper air filter:**

- A. Clean the air filter by tapping it gently on a solid surface.

NOTE: If the filter is too dirty, replace it with a new one. Dispose of the old filter properly.

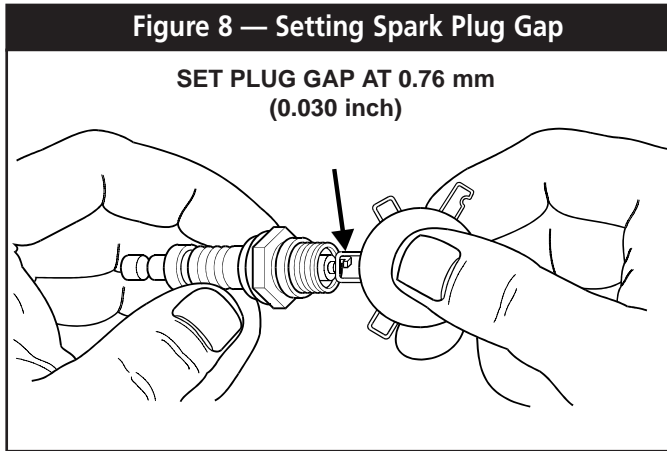
5. Clean the air cleaner cover.
6. Insert the pre-filter into the cover, then the paper air filter (see Figure 8).
7. Reinstall the air cleaner cover and tighten the two (2) screws (see Figure 7).

REPLACING THE SPARK PLUG

Use a Champion RC12YC spark plug or equivalent. The correct air gap is 0.76mm (0.030 in.). Remove the plug every **100 hours of operation** or once each year, whichever comes first. This will help your engine to start easier and run better.

1. Stop the engine and pull the spark plug wire off of the spark plug.
2. Clean around the spark plug and remove it from the cylinder head.

- Set the spark plug gap (Figure 8) to 0.76mm (0.030 in.). Install a correctly gapped spark plug into the cylinder head.



■ CLEANING THE SPARK ARRESTOR SCREEN

The engine exhaust muffler has a spark arrestor screen. Inspect and clean the screen **every 100 hours** of operation or once each year, whichever comes first.

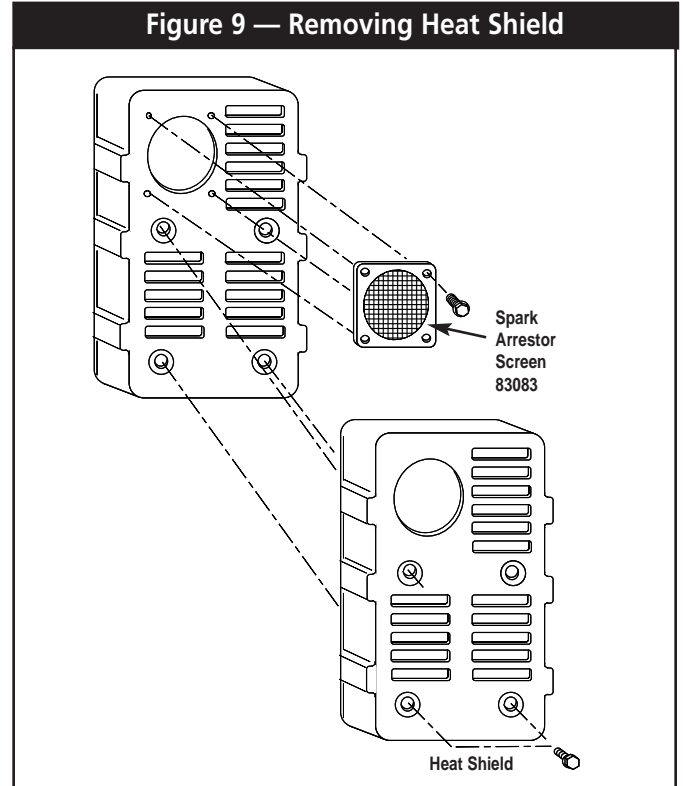
NOTE: If you use your engine on any forest-covered, brush-covered or grass-covered unimproved land, it must have a spark arrestor. The spark arrestor must be maintained in good condition by the owner/operator.

Clean and inspect the spark arrestor screen as follows:

Inspect the screen and replace if it is torn, perforated or otherwise damaged (see Steps 1-4 below). **DO NOT USE** a defective screen. If the screen is not damaged, clean it with a commercial solvent.

If the spark arrestor is found to be damaged or defective, replace it as follows:

- Remove the four (4) screws that connect the heat shield to the muffler (Figure 9).
- Remove the four (4) screws that attach the spark arrestor screen (Figure 9).
- Replace damaged screen with new screen (Part No. 83083).
- Reattach the screen and the heat shield with the four (4) screws. Resinstall the heat shield to the muffler with the four (4) screws.



SERVICE AND ADJUSTMENTS

■ ENGINE SPEED



CAUTION: The engine speed was properly adjusted at the factory and should require no additional adjustment. Do not attempt to change engine speed. If you believe the engine is running too fast or too slow, take your engine to an authorized service center for repair and adjustment. **CHANGING THE ENGINE GOVERNED SPEED WILL VOID THE ENGINE WARRANTY.**

Your engine runs at a constant speed. This constant operating speed is maintained by a mechanical, flyweight type, fixed speed governor. **DO NOT** try to adjust the governed speed setting for the following reasons:

- Operating the engine at high engine speeds is dangerous and increases the risk of personal injury or damage to the equipment.
- Operating the engine at low engine speeds with heavy loads may shorten the engine's life.

CARBURETOR ADJUSTMENTS

The carburetor of your engine is pre-set at the factory. The carburetor should not be tampered with because this will **VOID THE EMISSION CONTROL SYSTEM WARRANTY**. If you experience problems and your engine is used at an altitude in excess of 5000 feet, contact the nearest authorized dealer regarding high altitude setting changes.

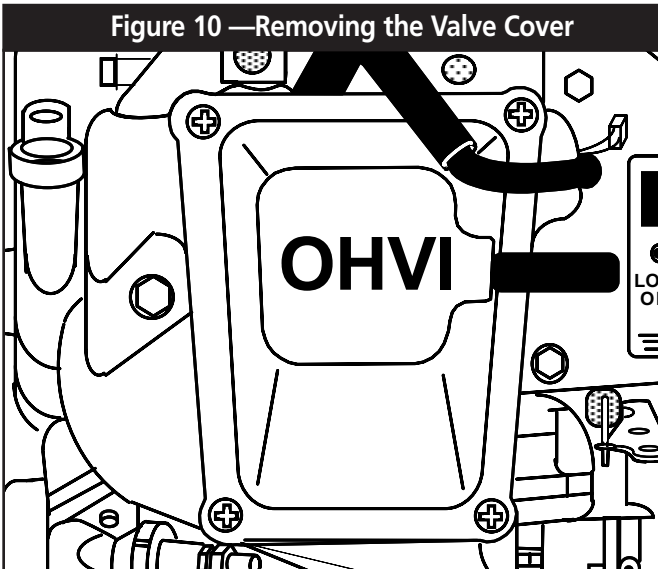
CHECKING/ADJUSTING VALVE TO ROCKER ARM CLEARANCE

Every 50 hours of operation, remove the rocker cover and check the valve to rocker arm clearance.

When adjusting the clearance, the engine should be at room temperature, and the piston should be at Top Dead Center (TDC) of its compression stroke (both valves are closed). The correct clearance is 0.05-0.1mm (0.002-0.004 in.). Check and adjust the valve to rocker arm clearance as follows:

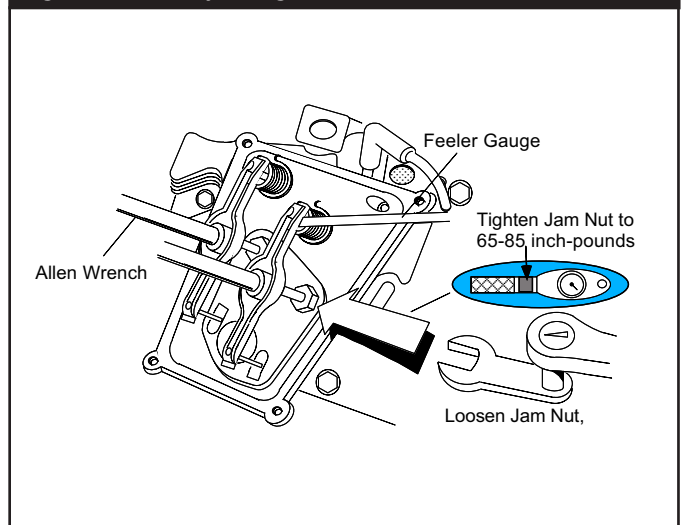
1. Remove the four (4) screws from the rocker cover (Figure 10).
2. Remove the rocker cover and rocker cover gasket.

Figure 10 — Removing the Valve Cover

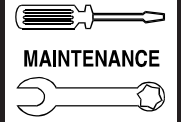


3. Loosen the rocker arm jam nut. Using an allen wrench to turn the pivot ball stud, check the clearance between the rocker arm and the valve stem with a flat feeler gauge (Figure 11).

Figure 11 — Adjusting Valve to Rocker Arm Clearance



4. When the valve clearance is correct, hold the pivot ball stud with the allen wrench and tighten the rocker arm jam nut. Torque the jam nut to **7.15-9.35 N-m (65-85 in-lb)**. After tightening the jam nut, recheck the valve clearance to make sure it did not change (see Figure 11).
5. Reinstall the rocker cover gasket, rocker cover and the four (4) screws (see Figure 10).

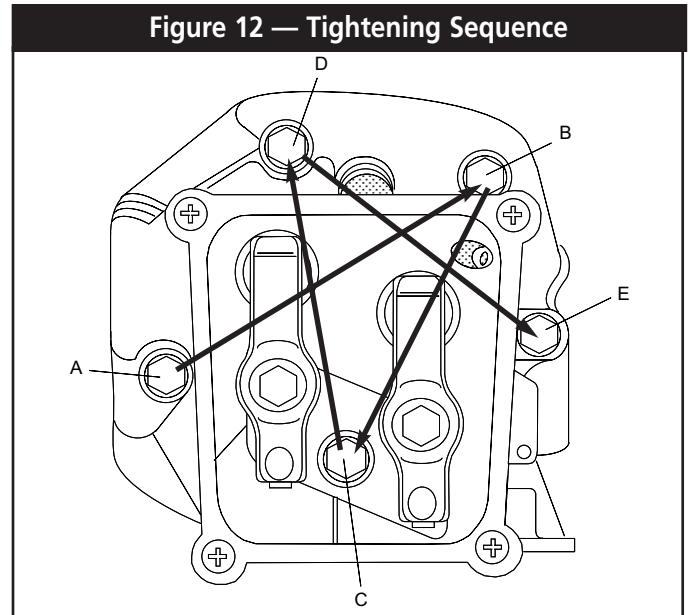


RETORQUING THE HEAD BOLTS

After the first 50 hours of operation, retorque the head bolts.

NOTE: Only perform this adjustment after the first 50 hours of operation. The head bolts will need no further adjustment.

1. Remove the four (4) screws from the rocker cover (see Figure 10).
2. Remove the rocker cover and rocker cover gasket.
3. Torque the bolts to 4.0 kg-m. (22 ft-lb).
4. Torque the bolts in the following sequence: A, B, C, D, E (star pattern). See Figure 12.



MAINTENANCE SCHEDULE				
MAINTENANCE OPERATION	Every 8 Hours or or Daily	25 Hours or Every Season	50 Hours or Every Season	100 Hours or Every Season
Check Oil Level	X			
Change Oil			See Note 1	
Change Oil Filter (if so equipped)			See Note 1	
Service Air Filter		Foam Pre-Filter	Paper Filter (Note 2)	
Replace or Clean Spark Plug				X
Clean Spark Arrestor Screen				X
Adjust Valve Clearance			X	
Retorque Head Bolts			See Note 3	

NOTE 1: Change oil and filter after first 8 hours of operation and then every 50 hours thereafter. Change sooner when operating under heavy load or in dusty or dirty environment or in high ambient temperature.

NOTE 2: Clean more often when operating under dirty or dusty conditions.

NOTE 3: Perform this task ONLY after first 50 hours of operation. Head bolts will NOT need further retorquing.

STORAGE INSTRUCTIONS

This engine should be started at least once a week and run for **at least 30 minutes**. If this cannot be done and the equipment must be stored for more than 30 days, use the following guidelines to prepare it for storage.



WARNING: Never store the engine with the fuel in the tank indoors or in an enclosed, poorly ventilated areas, where fumes can reach an open flame spark or pilot light as on a furnace, water heater, or clothes dryer.

1. Run the engine for about five (5) minutes to warm it.

NOTE: Alcohol-blended fuel, or “gasohol”, attracts moisture which can lead to the separation and formation of acids during storage. This acidic gas can damage internal engine parts. Methanol, ethanol and grain alcohol all are forms of gasohol. If you did use “gasohol,” drain the fuel tank, then run the engine until it stops from lack of fuel.



WARNING: Drain the fuel into approved container outdoors, away from open flame. Be sure the engine is cool.

NOTE: Using a fuel additive such as STA-BIL® fuel stabilizer, or an equivalent, will prevent gum deposits from forming in the engine’s fuel system.

2. While the engine is still warm, drain the oil from the crankcase. Refill with it with fresh oil. See **BEFORE STARTING ENGINE** on Page 6 for oil recommendations.
3. Remove spark plug and pour about 1/2 ounce (15ml) of engine oil into the cylinder. Crank slowly to distribute oil.



CAUTION: Avoid spray from the spark plug hole when cranking the engine slowly.

4. Install the spark plug. Do not connect the spark plug wire.
5. Clean the dirt, oil and grease from the cylinder, cylinder head, fins, blower housing, rotating screen and muffler area.
6. Close the fuel shut-off valve.

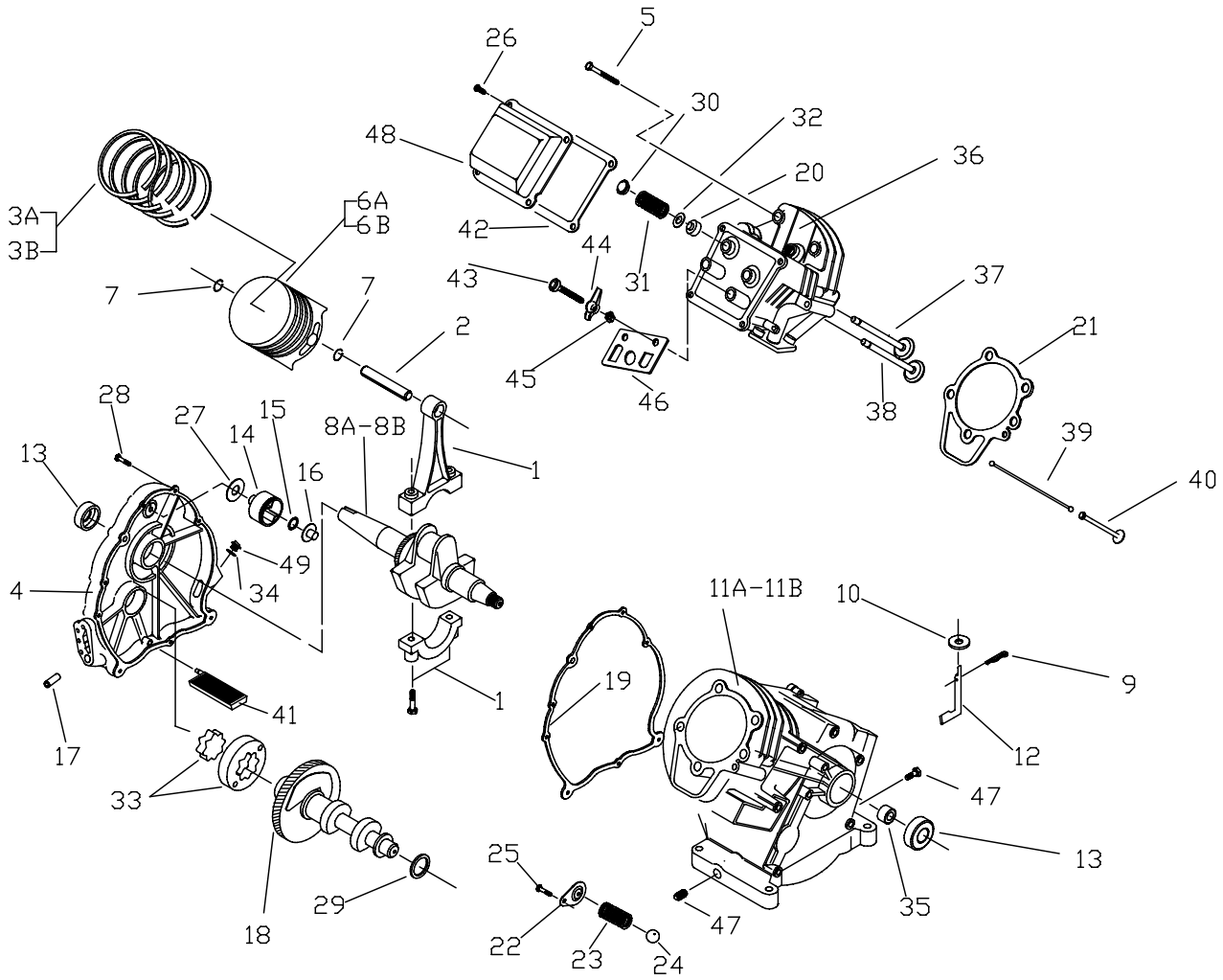
OTHER STORAGE TIPS

1. Do not store gasoline from one season to another.
2. Replace the gasoline can if it starts to rust. Rust and/or dirt in a gasoline can cause problems when you use that fuel with this equipment.
3. Store the equipment in a clean and dry area.

SPECIFICATIONS

Model	GN-190	GN-220
Bore	70mm	75mm
Stroke	49mm	49mm
Valve Clearance	0.05–0.10mm	0.05–0.10mm
Displacement	190cc	220cc
Maximum Tilt Angle While Operating	15°	15°
Oil Capacity with Oil Filter	770ml (29 oz.)	770ml (29 oz.)
Oil Capacity without Oil Filter	620ml (21 oz.)	620ml (21 oz.)

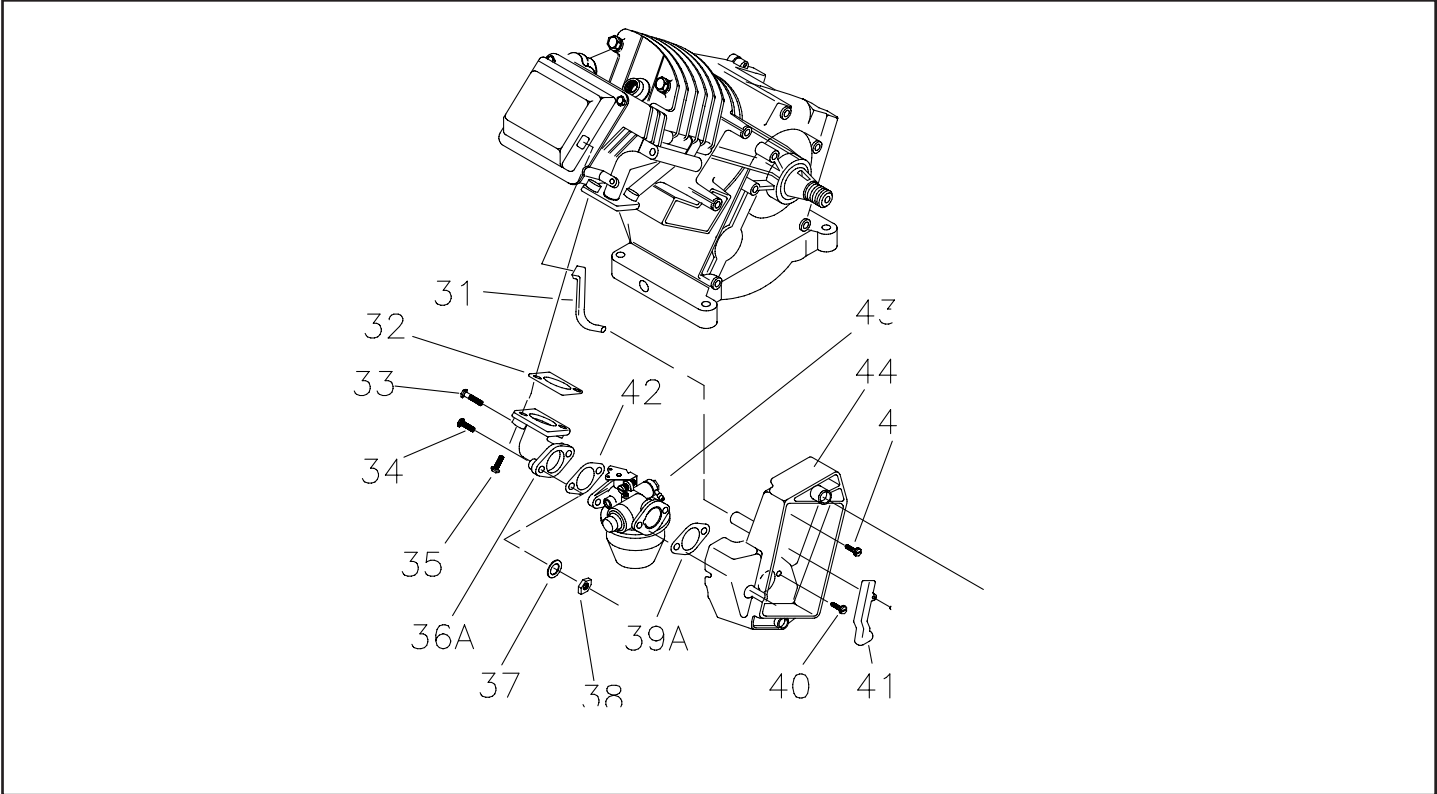
EXPLODED VIEW — SHORT BLOCK




SHORT BLOCK

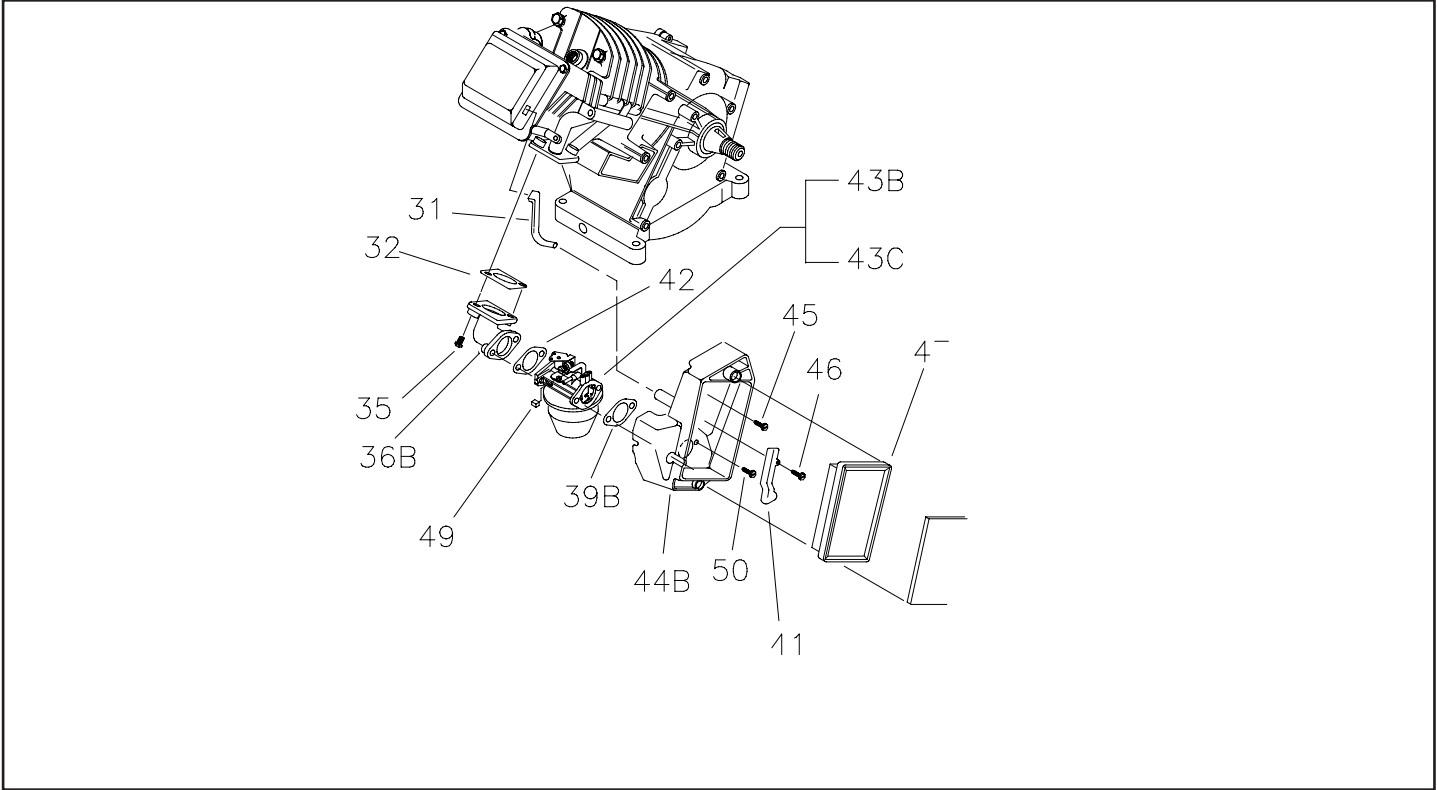
<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>	<u>QTY.</u>	<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>	<u>QTY.</u>
N/A	Long Block Assembly (190cc used with Item 8A)	21942E	1	28	M8-1.25 x 35mm Screw	89230	6
	Long Block Assembly (190cc used with Item 8B)	21943E	1	29	Spring Washer	99922	1
	Long Block Assembly (220cc used with Item 8A)	21944E	1	30	Valve Spring Retainer	A1720	2
	Long Block Assembly (220cc used with Item 8B)	21945E	1	31	Valve Spring	88401	2
1	Control Rod Assembly	78621	1	32	Valve Spring Wear Washer	84186	2
2	Piston Pin	76389	1	33	Geroter Set	83192	1
3A	Piston Ring Set [190cc]	78660	1	34	"O" Ring	86254	1
3B	Piston Ring Set [220cc]	88411	1	36	Cylinder Head Assembly	21705B	1
4	Gear Cover Assembly	A8897A	1	37	Exhaust Valve	90082	1
5	M8 x 52mm Head Bolt	77168	5	38	Intake Valve	90081	1
6A	Piston [190cc]	90325	1	39	Push Rod	88396A	2
6B	Piston [220cc]	88057	1	40	Tappet	83235	2
7	Pin Retainer Ring	76390	2	41	Oil Pick-up Assembly	80336	1
8A	Tapered Crankshaft Assm.	83337A	1	42	Rocker Cover Gasket	96362	1
8B	Straight Crankshaft Assm.	83338A	1	43	Pivot Ball Stud	77161	2
9	Governor "R" Pin	78658	1	44	GN-190/220 Rocker Arm	77160	2
10	Gov. Arm Thrust Washer	78659	1	45	Rocker Arm Jam Nut	76307	2
11A	Crankcase Assm. [190cc]	89213K	1	46	Push Rod Guide Plate	88403	1
11B	Crankcase Assm. [220cc]	89213J	1	47	1/4" NPT Pipe Plug	72657	2
12	Governor Arm	A7637	1	48	Rocker Cover Assembly	88412	1
13	Oil Seal	81695	2	49	Plastic Oil Fill Plug	76329	1
14	Governor Gear Assembly	A8929	1				
15	Governor Gear C-Ring	78645	1				
16	Governor Spool	A7811	1				
17	1/8" NPT Pipe Plug	72683	1				
18	Camshaft Assembly	98752	1				
19	Crankcase Gasket	89096	1				
20	Valve Stem Seal	88156	1				
21	Cylinder Head Gasket	A8822	1				
22	Oil Pressure Relief Cover	78691	1				
23	Oil Pressure Spring	A5772	1				
24	11/32" Ball	A5776	1				
25	M5 Form Screw	74908	1				
26	M6-1.0 x 12mm Screw	78606	4				
27	Gov. Gear Thrust Washer	76361	1				

EXPLODED VIEW — AIR CLEANER AND CARBURETOR



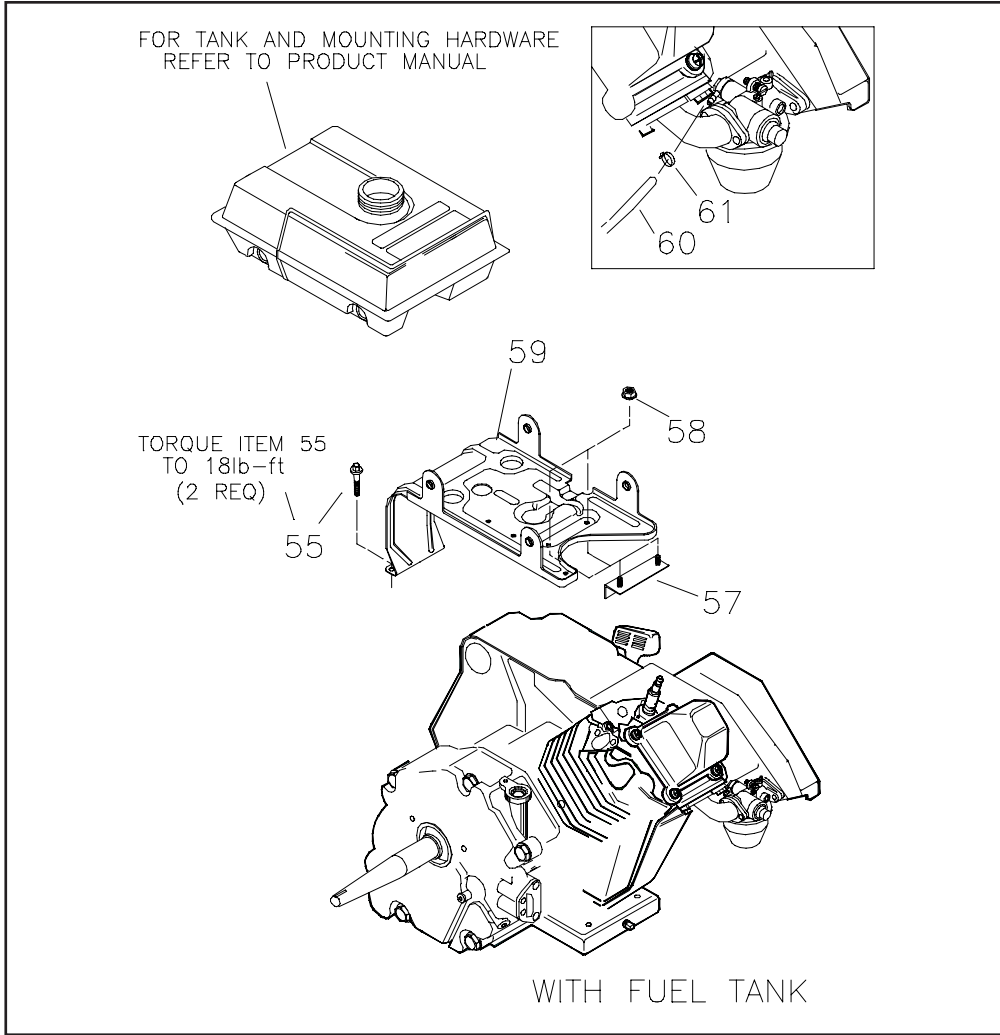
ITEM	DESCRIPTION	PART NO.	QTY.
31	Breather Hose	90947	1
32	Manifold Head Gasket	90051	1
33	M6 x 55mm Capscrew	57058	1
34	M6 x 25mm Capscrew	80318	1
35	M6 x 30mm Screw	80316	2
36A	Intake Manifold	20136	1
37	M6 Lock Washer	22097	2
38	M6 Hex Nut	49813	2
39A	Carburetor/Air Box	21202	1
	Gasket		
40	#10-32 x 3/4" Screw	36935	2
41	Canal Cover	80303	1
42	Carburetor/Manifold	21201	1
	Gasket		
43A	Dellorto Carburetor	21203	1
44A	Air Cleaner Base	21200	1
45	M6 x 12mm Capscrew	66476	1
46	#8 x 3/8" Plastite	59635	1
	Screw		
47	Air Filter	78601	1
48	Precleaner	78602	1

AIR CLEANER AND CARBURETOR



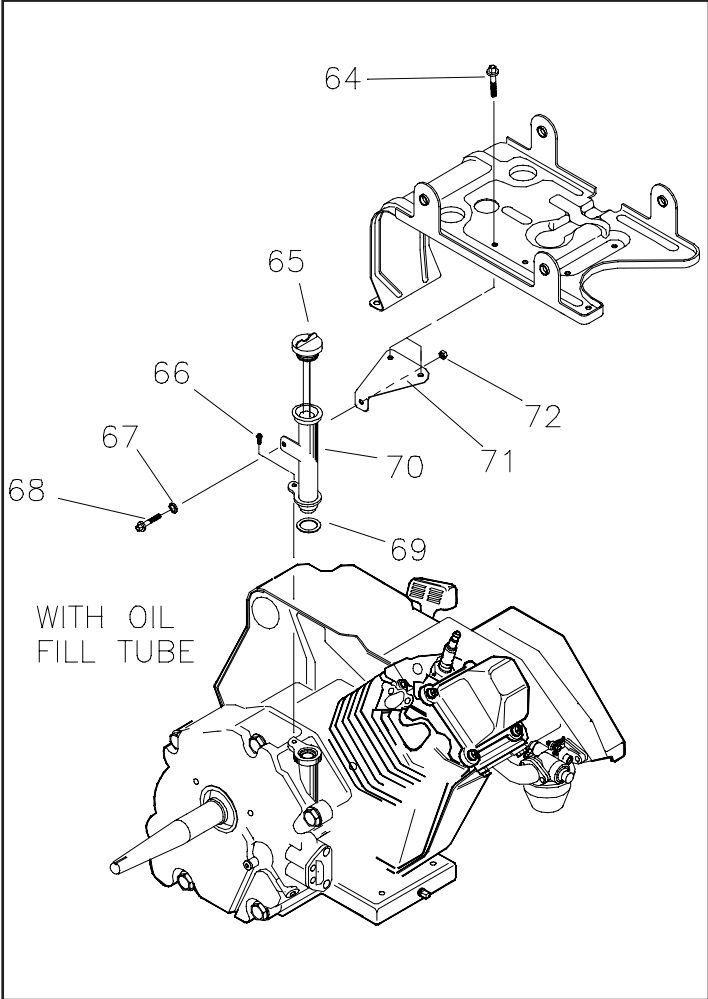
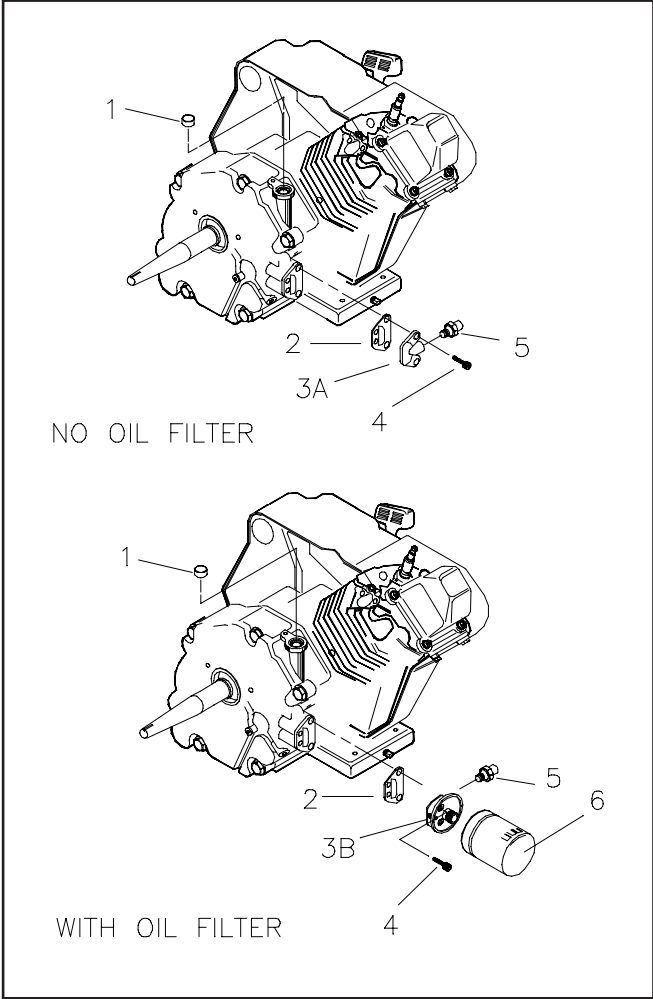
ITEM	DESCRIPTION	PART NO.	QTY.
31	Breather Hose	90947	1
32	Manifold Head	90051	1
	Gasket		
35	M6 x 30mm Screw	80316	2
36B	Intake Manifold	90948	1
39B	Carburetor /Air Box	91846	1
	Gasket		
41	Canal Cover	80303	1
42	Carburetor Manifold	78631	1
	Gasket		
43B	Carburetor (190cc)	98469	1
43C	Carburetor (220cc)	97747	1
44B	Air Cleaner Base	78607	1
45	M6 x 12mm Capscrew	66476	1
46	#8 x 3/8" Plastite Screw	59635	1
47	Air Filter	78601	1
48	Precleaner	78602	1
49	Choke Knob	83504	1
50	Curb Bolt	78643	2

EXPLODED VIEW — GAS TANK



ITEM	PART #	QTY.	DESCRIPTION
55	83512	2	M6 X 15 Taptite
57	95213	1	Tank Bracket
58	77395	2	M6 Flange Nut
59	95214	1	Tank Cradle
60	30340	12"	1/4" ID Hose
61	48031C	1	Hose Clamp

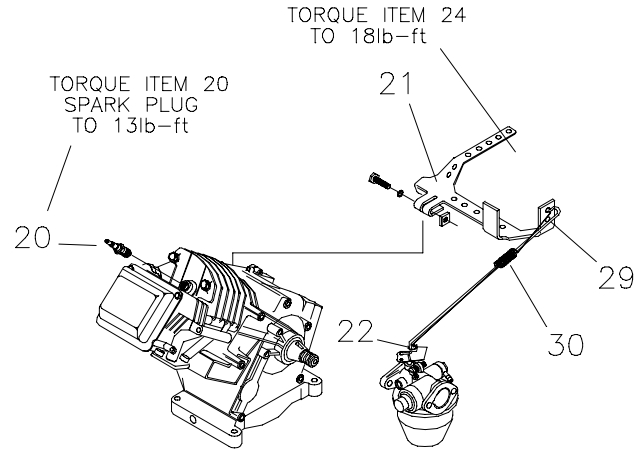
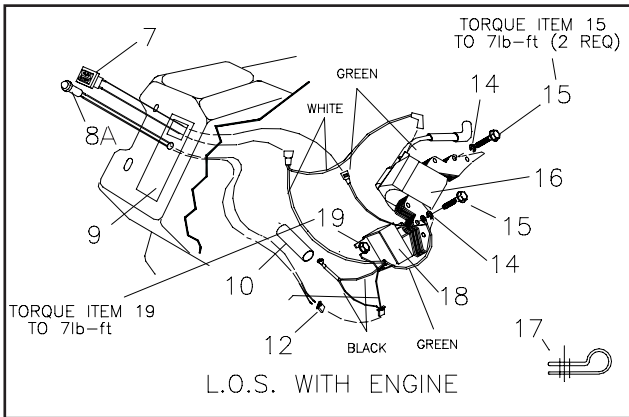
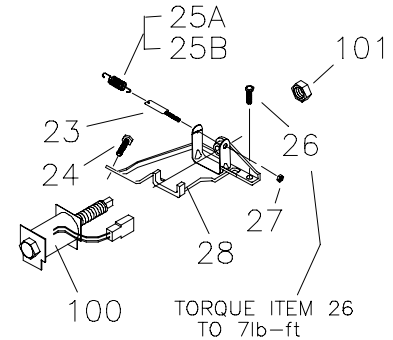
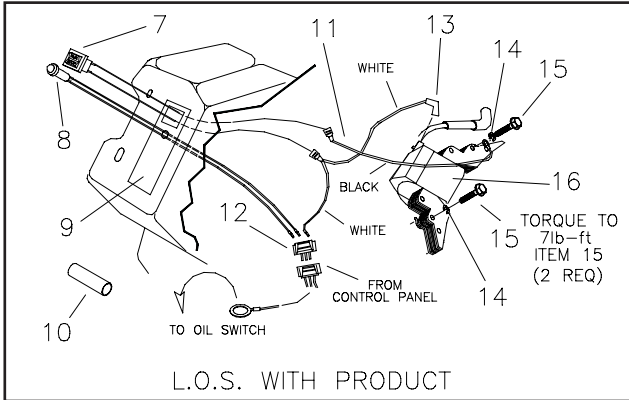
EXPLODED VIEW — OIL FILTER AND OPTIONAL OIL FILL TUBE



ITEM	PART #	QTY.	DESCRIPTION
1	94820	1	Expansion Plug
2	91848	1	Oil Filter Gasket
3A	88758	1	Oil Blockoff
3B	84982	1	Oil Filter Adapter
4	92978	2	M6 X 18 Taptite
5	99236	1	Oil Press Switch
6	70185	1	Oil Filter

ITEM	PART #	QTY.	DESCRIPTION
64	74908	2	M5 X 12 Taptite
65	91475	1	Dipstick ASM
66	90388	1	M6 X 12 Taptite
67	22473	1	M6 Flat Washer
68	47411	1	M6 X 16 HHCS
69	91230	1	Rubber Washer
70	91041	1	Fill Tube
71	95997	1	Oil Fill Brkt
72	77395	1	M6 Flange Nut

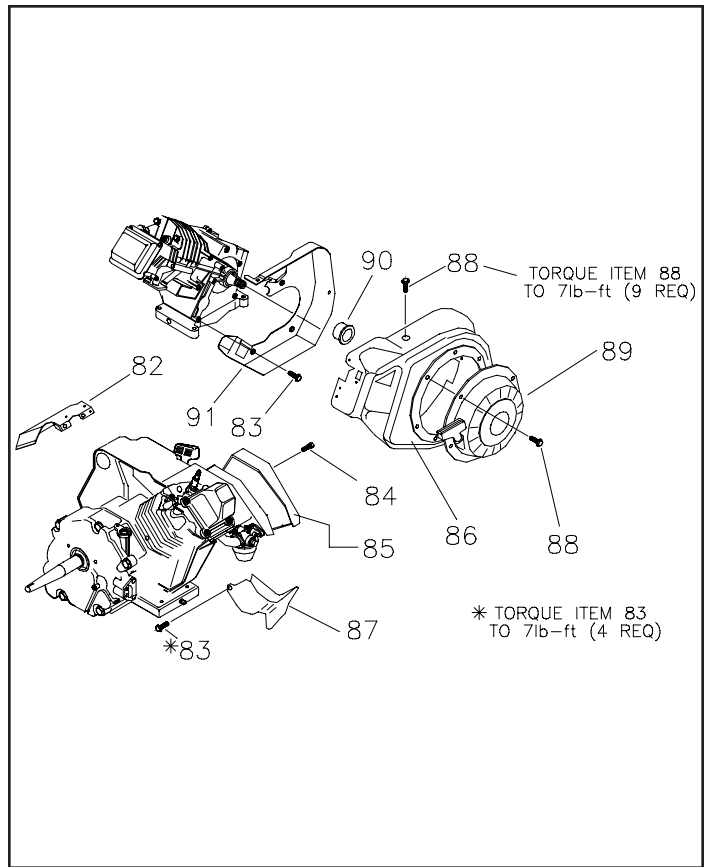
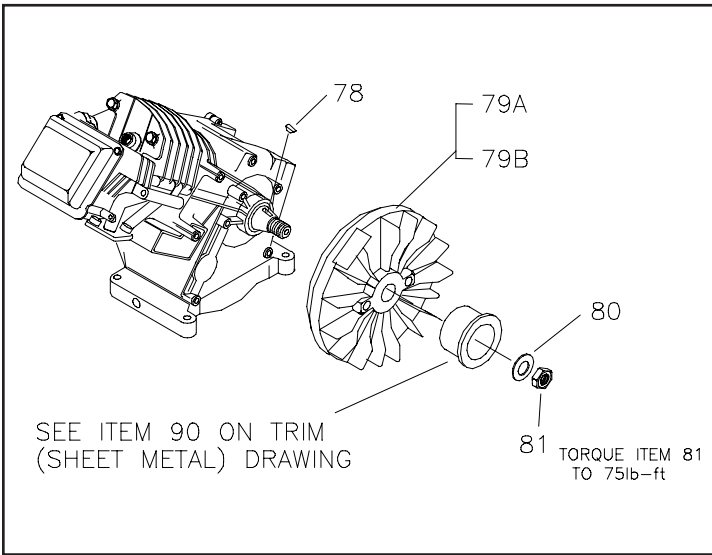
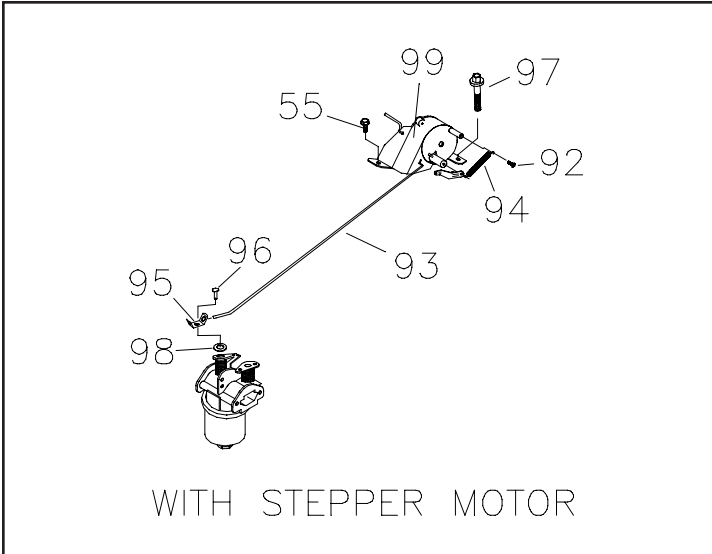
EXPLODED VIEW — LOW OIL SHUTDOWN AND GOVERNOR



ITEM	PART #	QTY.	DESCRIPTION
7	78653	1	Run/Stop Switch
8	85272	1	LED Assembly
8A	86753	1	LED Assembly
9	84195	1	L.O.S. Decal
10	85620	1	Black Sleeve
11	00285271	1	Black Wire Assembly
12	84329	1	3 Pin Male HSG
13	00185271	1	White Wire Assembly
14	22097	2	M6 Lockwasher
15	82981	2	M6 X 30 Taptite
16	81675	1	Ignition Coil
17	84274	1	Tinnerman Clamp
18	87221A	1	L.O.S. Module
19	45756	1	M6 x 10mm Screw
20	72347	1	Sparkplug

ITEM	PART #	QTY.	DESCRIPTION
21	86962	1	Governor Lever
22	85953	1	Wear Washer
23	83502	1	Adjust Screw
24	83512	1	M8 X 15 Taptite
25A	78604	1	60Hz Gov. Spring
25B	86643	1	50Hz Gov. Spring
26	66476	1	M6 X 12 HHCS
27	83503	1	M5 Lock Nut
28	83781	1	Governor Brkt.
29	86384	1	Governor Rod
30	86037	1	Anti-Lash Spring
100	83782	1	Idle Coil ASM
101	66311	1	M8 — 1.25 Jam Nut

EXPLODED VIEW — STEPPER MOTOR, FLYWHEEL, RECOIL STARTER



ITEM	PART #	QTY.	DESCRIPTION
55	83512	2	M8 X 15 Taptite
78	82774	1	Woodruff Key
79A	SRV77182T	1	191 Flywheel
79B	SRV77182E	1	220 Flywheel
80	83312	1	Conical Washer
81	81810	1	M16 Hex Nut
82	92984	1	Top Wrapper
83	45756	4	M6 X 10 Taptite
84	78609	2	Cover Bolts

ITEM	PART #	QTY.	DESCRIPTION
85	78608A	1	Air Box Cover
86	90695A	1	Blower Housing
87	89739	1	Lower Wrapper
88	66476	9	M6 X 12 HHCS
89	A2799	1	Recoil Assembly
90	A2842	1	Recoil Cup
91	78651C	1	Backplate
92	59636	1	#4 X 3.37 Long
93	86296	1	Governor Rod
94	88905	1	Extension Spring
95	89477	1	Spring Clip
96	89478	1	Snap Button
97	40976	1	SHCS M8—1.25 X 20
98	90192	1	Carb Wear Washer
99	92059	1	Stepper Motor



CALIFORNIA EMISSION CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board ("CARB") and Generac Corporation are pleased to explain the Emission Control System Warranty on your new utility or lawn and garden equipment engine. In California, new utility and lawn and garden equipment engines must be designed, built and equipped to meet the State's stringent anti-smog standards. Generac Corporation will warrant the emission control system on your utility or lawn and garden equipment for the periods of time listed below provided there has been no abuse, neglect, unapproved modification, or improper maintenance of your utility or lawn and garden equipment engine.

Your emission control system may include parts such as the carburetor, ignition system and exhaust system. Also included may be the compression release system and other emission-related assemblies.

Where a warrantable condition exists, Generac Corporation will repair your utility or lawn and garden equipment engine at no cost to you for diagnosis, parts and labor.

MANUFACTURER'S EMISSION CONTROL SYSTEM WARRANTY COVERAGE:

Emissions control systems on 1995 and later model year utility and lawn and garden equipment engines are warranted for two years as hereinafter noted. If, during such warranty period, any emission-related part on your engine is defective in materials or workmanship, the part will be repaired or replaced by Generac Corporation.

OWNER'S WARRANTY RESPONSIBILITIES:

As the utility or lawn and garden equipment engine owner, you are responsible for the performance of the required maintenance listed in your owners manual. Generac Corporation recommends that you retain all receipts covering maintenance on your utility or lawn and garden equipment engine, but Generac Corporation will not deny warranty solely due to the lack of receipts or for your failure to provide written evidence of the performance of all scheduled maintenance.

As the utility or lawn and garden equipment engine owner, you should, however, be aware that Generac Corporation may deny you warranty coverage if your utility or lawn and garden equipment engine or a part thereof has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your utility or lawn and garden equipment engine to a Generac Corporation Authorized Service Outlet as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

Warranty service can be arranged by contacting either a Generac Corporation Authorized Service Outlet or by contacting Generac Corporation at:

GENERAC CORPORATION PH: (414) 544-4811
P.O. BOX 8 FAX: (414) 544-0179
WAUKESHA, WI 53187

IMPORTANT NOTE: This warranty statement explains your rights and obligations under the Emission Control System Warranty ("ECS Warranty") which is provided to you by Generac Corporation pursuant to California law. See also the Generac Corporation Limited Warranties for Generac Corporation which is enclosed herewith on a separate sheet and also is provided to you by Generac Corporation. The ECS Warranty applies only to the emission control system of your new engine. To the extent that there is any conflict in terms between the ECS Warranty and the Generac Corporation Warranty, the ECS Warranty shall apply except in any circumstances in which the Generac Corporation Warranty may provide a longer warranty period. Both the ECS Warranty and the Generac Corporation Warranty describe important rights and obligations with respect to your new engine.

Warranty service can only be performed by a Generac Corporation Authorized Service Outlet. At the time of requesting warranty service, evidence must be presented of the date of the sale to the original purchaser. The purchaser shall pay any charges for making service calls and/or for transporting the products to and from the place where the inspection and/or warranty work is performed. The purchaser shall be responsible for any damage or loss incurred in connection with the transportation of any engine or any part(s) thereof submitted for inspection and/or warranty work.

IF YOU HAVE ANY QUESTIONS REGARDING YOUR WARRANTY RIGHTS AND RESPONSIBILITIES, YOU SHOULD CONTACT GENERAC CORPORATION AT **1-800-222-3136**.



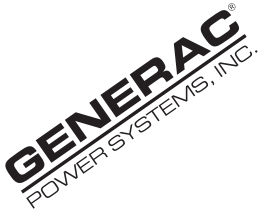
EMISSION CONTROL SYSTEM WARRANTY

Emission Control System Warranty ("ECS Warranty") for 1995 and Later Model Year Utility and Lawn and Garden Equipment Engines:

- A. Applicability: This warranty shall apply to 1995 and later model year utility and lawn and garden equipment engines. The ECS Warranty Period ("ECS Warranty Period") shall begin on the date the new engine or equipment is delivered to its original, end-use purchaser and shall begin on the date the new engine or equipment is delivered to its original, end-use purchaser and shall continue for 24 consecutive months thereafter.
- B. General Emissions Warranty Coverage: Generac Corporation warrants to the original, end-use purchaser of the new engine or equipment and to each subsequent purchaser that each of its utility and lawn and garden equipment engines is:
1. Designed, built and equipped so as to conform with all applicable regulations adopted by the Air Resources Board pursuant to its authority, and
 2. Free from defects in materials and workmanship which, at any time during the ECS Warranty Period, will cause a warranted emissions-related part to fail to be identical in all material respects to the part as described in the engine manufacturer's application for certification.
- C. The ECS Warranty only pertains to emissions-related parts on your engine, as follows:
1. Any warranted, emissions-related parts which are not scheduled for replacement as required maintenance in the Owner's Manual shall be warranted for the ECS Warranty Period. If any such part fails during the ECS Warranty Period, it shall be repaired or replaced by Generac Corporation according to Subsection (4) below. Any such part repaired or replaced under the ECS Warranty shall be warranted for any remainder of the ECS Warranty Period.
 2. Any warranted, emissions-related part which is scheduled only for regular inspection as specified in the Owner's Manual shall be warranted for the ECS Warranty Period. A statement in such written instructions to the effect of "repair or replace as necessary" shall not reduce the ECS Warranty Period. Any such part repaired or replaced under the ECS Warranty shall be warranted for any remainder of the ECS Warranty Period.
 3. Any warranted, emissions-related part which is scheduled for replacement as required maintenance in the Owner's Manual shall be warranted for the period of time prior to first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part shall be repaired or replaced by Generac Corporation according to Subsection (4) below. Any such emissions-related part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period prior to the first scheduled replacement point for such emissions-related part.
 4. Repair or Replacement of any warranted, emissions-related part under this ECS Warranty shall be performed at no charge to the owner at a Generac Corporation Authorized Service Outlet.
 5. The owner shall not be charged for diagnostic labor which leads to the determination that a part covered by the ECS Warranty is in fact defective, provided that such diagnostic work is performed at a Generac Corporation Authorized Service Outlet.
 6. Generac Corporation shall be liable for damages to other original engine components or approved modifications proximately caused by a failure under warranty of any emission-related part covered by the ECS Warranty.
 7. Throughout the ECS Warranty Period, Generac shall maintain a supply of warranted emission-related parts sufficient to meet the expected demand for such emission-related parts.
 8. Any Generac Corporation authorized and approved emission-related replacement part may be used in the performance of any ECS warranty maintenance or repairs and will be provided without charge to the owner. Such use shall not reduce Generac Corporation ECS warranty obligations.
 9. Unapproved add-on modified parts may not be used to modify or repair a Generac Corporation engine. Such use voids this ECS Warranty and shall be sufficient grounds for disallowing an ECS Warranty claim. Generac Corporation shall not be liable hereunder for failures of any warranted parts of a Generac Corporation engine caused by the use of such an unapproved add-on or modified part.

EMISSION RELATED PARTS INCLUDE THE FOLLOWING:

1. Carburetor assembly and it's internal components.
 - a. Fuel filter
 - b. Carburetor gaskets
 - c. Intake pipe
2. Air cleaner assembly
 - a. Air filter element
3. Ignition system including:
 - a. Spark plug
 - b. Ignition module
4. Catalytic muffler (if so equipped)
 - a. Muffler gasket (if so equipped)
 - b. Exhaust manifold (if so equipped)
5. Crankcase breather assembly and its components.
 - a. Breather connection tube



**GENERAC POWER SYSTEMS, INC.
TWO YEAR LIMITED WARRANTY FOR "GN" ENGINES**

Generac Power Systems, Inc. warrants to the original purchaser that the engine will be trouble free from defects in material or workmanship for the items and period set forth below from the date of original purchase. This warranty is not transferable. This warranty pertains to "GN" engines utilized to power equipment within the lawn and garden industry. Examples are, but not limited to generators, pressure washers, air compressors, welders, lawn tractors, snow blowers, mowers, edgers and pumps.

ENGINE COVERAGE	CONSUMER*	COMMERCIAL*
	2 YEARS (2 YEAR PARTS ONLY)	1 YEAR

With the exception of European Community Countries, all engines bound for export shall be warranted for one (1) year in consumer applications, and 90 days in commercial applications as defined below.

NOTE: For the purpose of this warranty, "consumer use" means personal residential household use by original purchaser. This does not apply to engines used in generators used for prime power in place of utility. "Commercial use" means all other uses, including rental, construction and income producing purposes. Once an engine has experienced commercial use, it shall thereafter be considered a commercial use for the purpose of this warranty.

DURING SAID WARRANTY PERIOD, GENERAC POWER SYSTEMS, INC. WILL, AT ITS OPTION, REPAIR OR REPLACE ANY PART WHICH, UPON EXAMINATION BY GENERAC POWER SYSTEMS, INC. IS FOUND TO BE DEFECTIVE UNDER NORMAL USE AND SERVICE. Starting batteries are not warranted by Generac Power Systems, Inc. All transportation costs under warranty, including return to the factory if necessary, are borne by the purchaser and paid by him. This warranty does not include normal maintenance and service and does not apply to engines or parts which have been subjected to improper or unauthorized installation, misuse, negligence, accident, overloading, over speeding, improper maintenance, improper repair or improper storage so as, in Generac Power Systems, Inc.'s judgement, to adversely affect its performance and reliability.

NORMAL WEAR: As with all mechanical devices, the "GN" Series engines requires periodic service and parts replacement (example: oil filter) in accordance with the owner's manual schedules maintenance to insure proper performance of the engine. This warranty will not cover repair when normal use has exhausted the life of a part or engine.

There is no other expressed warranty. GENERAC POWER SYSTEMS, INC. HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO THE EXTENT PERMITTED BY LAW. The duration of any implied warranties which cannot be disclaimed is limited to the time period (one year) as specified in the expressed warranty. Liability for consequential, incidental, or special damages under any and all warranties is excluded to the extent permitted by law. Some states do not allow limitations on how long an implied warranty lasts, or the exclusions or limitations of consequential or incidental damages, so the limitations or exclusions do not apply. This warranty provides the original purchaser specific legal rights and the original purchaser may also have other rights, which vary state to state.

For service, please see your nearest Generac Power Systems, Inc. Authorized Service Dealer or call 414-544-4811. Warranty service can only be performed by a Generac Power Systems, Inc. Authorized Service Dealer. This warranty does not apply to service performed at any other facility or dealership. At the time of requesting warranty service, evidence of the original purchase date must be presented.

GENERAC CORPORATION

P.O. BOX 8 WAUKESHA, WI 53187 TELEPHONE: (414) 544-4811 FAX: (414) 544-4851